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DOCUMENTS, REPORTS, AND LEGISLATION

Industries and Commerce

THE CANNED SALMON INDUSTRY. The report recently issued by the Federal Trade Commission (*Report of the Federal Trade Commission on Canned Foods: Canned Salmon*, Washington, December, 1918, pp. 83, 10c.) shows that in 1917, there were 8,627,453 full cases (414,117,744 pounds) of salmon packed by American canners, over 90 million fish being used in filling this number of cases. The fixed investment in the industry (exclusive of borrowed funds, which amount to almost as much as the fixed investment) is over \$31,000,000. The 1917 pack at the August prices was worth approximately \$72,000,000.

The location of the canneries and the success or failure of any particular venture depends largely upon the supply of the raw material, fish. The fresh fish are highly perishable and hence the canneries must be located near the fishing grounds. The industry started in California in 1864 and has been moving north ever since. In 1917 approximately 70 per cent of the output was canned in Alaska, and 20 per cent in the western part of Alaska. The canneries are generally located in out of the way places and many Alaska canners must transport all supplies and laborers hundreds of miles to the canneries. This transportation cost is often a material item. In 1917 it averaged 81 cents per case or 16.7 per cent of the total cost of production for the west Alaska canners.

The supply of raw fish is limited by nature and the fish are found abundantly only in certain places. The catch in any particular stream in any particular year is uncertain. As the number of good trap locations is limited, canners controlling such locations have a decided advantage over other canners in being able to secure their raw fish more cheaply. Licenses for trap locations are good for four years in Puget Sound, but for only one year in Alaska. Apparently there would be a scramble for good locations each spring in Alaska. Squatter sovereignty, however, rules and a site is seldom "jumped" as long as the "owner" operates a trap there. The charge for these locations is nominal.

The canners, however, would like to have greater security in their rights to such locations. Two laws were introduced in the last Congress to regulate salmon fishing in Alaska. The Sulzer bill provided for 5-year leases which might be renewed at the end of each period. The Alexander bill provided for 15-year leases, upon the expiration of which the sites could be leased to any applicant by the United States.

The commission expressed itself as opposed to allowing lessees to renew their leases for successive periods in such a way as to keep all others out and also felt that a tenure of fifteen years was too long and would tend towards monopoly.

The successful operation of a salmon cannery depends to a large extent upon the ability to secure an adequate and cheap supply of fish. A canner may secure a large quantity of fish one year and a very small quantity the next. A force of laborers, together with supplies of cans, boxes, fuel, food, etc., sufficient for a season's operations must be provided. In case of a small run of fish, the cans and boxes can be carried over to the next year; but the wages of the laborers, the plant overhead, depreciation and general expenses are practically the same regardless of the size of the pack. This means low unit costs when the pack is large and high unit costs when the pack is small. As a result profits fluctuate widely from year to year. The situation is somewhat different for a canner who is located in a settled community. Such cannerys often purchase their fish from independent fishermen and are able to secure their labor from nearby towns as needed. However, in case of a small run of fish in this section competition between cannerys and fresh fish buyers is likely to force them to pay high prices for their fish and they may be unable to secure enough for the efficient operation of their plants.

There is no uniformity in the costs of the different cannerys. The costs of production (exclusive of marketing expense) in 1916 ranged from \$1.85 to \$12.27 per full case (48 lbs. of meat) while in 1917 the costs ranged from \$1.33 to \$26.21. In 1916 the average cost was \$3.61 per case. Fifty per cent of the production was canned at costs below \$3.50, 18 per cent was packed at costs between \$3.50 and \$4, and 10 per cent was packed at costs between \$4 and \$5. The remaining 10 per cent was packed at costs above \$5. In 1917 the average cost was \$4.43 per case. In this year 53 per cent of the total production was canned at costs below \$4.50, 10 per cent at costs between \$4.50 and \$5, 15 per cent at costs between \$5 and \$6, 8 per cent at costs between \$6 and \$7, 7 per cent at costs between \$7 and \$8, and 9 per cent at costs above \$8. The modal cost group was from \$3 to \$3.50, well below the average, but only 17 per cent of the total fell within this group. (The average cost figures are based on one half of total production. The other cost figures are based on 84 per cent of total production in 1916 and 89 per cent in 1917.)

The plants with large packs have lower costs than the plants with small packs. The report makes a comparison of the costs of produc-

tion at large and small plants, taking a production of 50,000 cases as the dividing point. The large canneries had an average cost 62 cents below the small canneries in 1916 (\$3.49 compared with \$4.11 per case). In 1917 the costs of the large plants were \$1.38 below the costs of the small plants (\$4.30 compared with \$5.68 per case). The large plants had lower unit costs for every important cost item, but had the greatest advantages in the unit costs of fish and labor.

A canner with several plants may be called a "compound company." The compound company has an advantage over a canner with only one plant ("simple company") in that he can equalize or absorb local losses without incurring a deficit. Thus a company with six plants lost \$115,000 at one plant in 1917 and yet made a total profit of over \$1,000,000. A large canner is able to own a fleet and thus can transport men and supplies from one plant to another as necessitated by the size of the runs at the different plants. A canner operating several plants is also able to secure the best trap locations and to obtain the seasonal credit needed on better terms than the small canner whose profits are more uncertain. These advantages, however, do not always result in lower costs of production. A comparison of the costs of large and small companies was made, regardless of the production or size of their plants. The large companies secured their fish and containers cheaper than the small companies, while the small companies had lower labor and overhead costs. In 1916 the average cost of 21 small companies was 18 cents below the average cost of 8 large companies. In 1917, however, the average cost of the large companies was 49 cents below the average of the small companies. This was due to the fact that the large companies secured their fish for 75 cents less per case than the small companies. The saving of the small companies on labor and overhead could not overcome this great handicap.

It is clear from these facts, that the large companies are no more efficient in their operation than the small companies and that any advantage that they may possess in the cost of production is in their ability to secure their fish and containers more cheaply. Their advantage in securing fish appears to be due to their control of the best trap locations or the location of their plants in sections where fish are more plentiful. Their advantage in securing containers is based on their ability to negotiate favorable purchase contracts with the can companies, or to manufacture their own cans economically. Concerning large and small companies, the report says:

It seems reasonably clear, then, that the large companies have shown no exceptional efficiency and that their size has redounded to their own advantage

rather than to that of the public. In this industry large and efficient plants rather than large companies, . . . would be socially desirable. A further centralization of control, therefore, could offer no economies which would balance the dangers of monopoly in the industry.

Salmon canners as a rule do not have a large enough volume of sales to justify the maintenance of extensive sales organizations. Many of them are located in small villages and are out of touch with the large markets. For this reason nearly all canned salmon is sold through brokers. Most of these brokers have exclusive sales contracts with several canners. They are then known as selling agents. Such agents often finance the canners and have complete control of the marketing of their product.

Many of these brokers own or directly control one or more canneries, act as selling agent for several canners, and do a general brokerage business for other canners with whom they have no general sales contracts. The report shows that, in 1917, 46 per cent of the canners sold their entire pack through sales agents, 16 per cent sold their entire pack through brokers, and only 3 per cent sold their entire pack direct to jobbers or brokers. The other 35 per cent of the canners did not sell their entire packs in any one way, but it is noteworthy that 66 per cent of the canners effected no direct sales of any of their product.

There are a few large companies or groups of companies which dominate the salmon canning industry. Each of these large companies is connected with a large broker or other kind of distributor. These brokers control the sale of the product of a number of canning companies. The large companies often own stock and make loans to other companies. The stockholders in one company frequently control other companies. In these ways many canners are closely bound together into groups dominated by one company or one man. There were five such groups which in 1917 packed 53 per cent of the year's production. Some of the Chicago meat packers have extensive interests in the salmon canning industry and at least two of the above groups are dominated by Chicago meat-packing firms.

Very few of the Pacific coast salmon brokers have sales organizations extending over the country and consequently they effect their sales through brokers located in other cities, paying them a sub-brokerage. The ordinary brokerage on canned salmon is 5 per cent (although commissions of from $2\frac{1}{2}$ to $13\frac{1}{2}$ per cent were reported), about one half of which is paid out as sub-brokerage. A few canners have established direct connections with Eastern brokers and so have to pay only $2\frac{1}{2}$ or 3 per cent brokerage. The commission did not

believe that it was practical for the canners to sell direct to the wholesale grocers but did think it practical for the medium and large sized canners to establish direct connections with Eastern brokers and to reduce the amount of brokerage paid by one half.

The canned salmon industry offers an example of an industry in which the larger companies determine the prices which are followed pretty closely by all producers. In August "opening prices" are named at which the canners will "open" business for their goods then being packed. Since 1905 nearly all canners naming opening prices have followed the prices made by the Alaska Packers' Association or by the brokerage firm of Deming & Gould.

The Alaska Packers' Association generally names prices for all grades except sockeyes, the price of which is usually named by Deming & Gould. The Alaska Packers' Association is principally interested in the Alaska product, while Deming & Gould have very large interests in Puget Sound, where the costs are higher. For this reason Deming & Gould opened prices on all grades in 1917. Although the president of the Alaska Packers' Association was in favor of somewhat lower prices he followed those named by Deming & Gould in order not to demoralize the market. The weighted averages of the opening prices per full case were \$5.14 in 1916 and \$8.33 in 1917, or an increase of 62 per cent. The increase in the average cost of production was 23 per cent. The 1916 opening prices were high enough to cover the cost of production and selling for approximately 87 per cent of the season's pack, while the 1917 prices would allow approximately 94 per cent of the year's production to be sold without a loss.

The Alaska Packers' Association with its affiliated companies packed 18.4 per cent of the total production in 1917 and the Deming & Gould group of companies packed 11.4 per cent. These two groups of companies together packed only 30 per cent of the entire year's production. Yet the prices named by one of these companies on a particular grade is followed by practically the entire industry. This shows how a company, larger than any of its competitors, even though controlling only a small part of the total production can determine the prices for the entire industry.

Prices high enough to yield a profit on 90 per cent of the total product mean very high prices for most producers. The average net profit on investment was 22.1 per cent in 1916 and 52.7 per cent in 1917. The average net profit on net sales was 18.5 per cent in 1916 and 34.1 per cent in 1917. As the range of costs was great, the net profits of individual canners naturally varied widely. Out of the 76 companies reported upon in 1916, ten showed a loss and 66 showed

a profit. Out of the 66 showing a profit, 33 made over 25 per cent and 3 made over 100 per cent on investment. The largest loss was 70 per cent and the highest profit was 168 per cent. Out of the 90 companies reported upon in 1917, 12 showed a loss and 78 showed a profit. Of the 78 showing a profit, 33 realized over 50 per cent and 11 made over 100 per cent on investment. The greatest loss reported was 69 per cent, while the highest percentage of profit realized was 239.

PAUL D. CONVERSE.

Washington, D. C.

The Bureau of Foreign and Domestic Commerce of the United States Department of Commerce has recently issued the following volumes:

Special Agents Series:

- No. 172, *Electrical Goods in China, Japan, and Vladivostok*, by R. A. Lundquist (Washington, 1918, pp. 197). This contains an analysis of markets for electrical goods and methods of conducting trade in these countries. It also has considerable general economic information in regard to the Orient.
- No. 173, *Shoe and Leather Trade in China and Japan*, by C. E. Bosworth (pp. 37).
- No. 174, *Markets for Boots and Shoes in Chile and Bolivia*, by H. G. Brock (pp. 192). This, like the previous issues, has general economic and commercial description.
- No. 175, *Construction Materials and Machinery in Chile, Peru, and Ecuador*, by W. W. Ewing (pp. 205).
- No. 176, *Furniture Markets of Chile, Peru, Bolivia, and Ecuador*, by H. E. Everly (pp. 165).

Miscellaneous Series:

- No. 64, *Wholesale Prices of Leading Articles in the United States Markets, 1917* (pp. 14).
- No. 70, *The Conduct of Business with China* (pp. 47).
- No. 74, *Wearing Apparel in Peru*, by W. F. Montavon (pp. 64).

Other reports of the Department of Commerce are *Annual Report of the Secretary of Commerce, 1918* (pp. 157), and *Annual Report of the Commissioner of Fisheries, 1918* (pp. 94).

The United States Tariff Commission has published as Tariff Information Series No. 9, *Costs of Production in the Sugar Industry* (Washington, 1919, pp. 55). The pamphlet is intended mainly to show (1) the effects of the war upon sugar costs and prices, (2) the

necessity for government price regulation, (3) the probable effects of recent and proposed tariffs and excise taxes upon sugar costs, prices and production in the various continental and insular sugar areas of the United States and in Cuba. It carries to the close of the sugar year of 1917-1919 much of the data contained in three previous official reports, namely, *The Sugar Industry*, issued by the United States Department of Commerce in 1913, *The Cane Sugar Industry*, issued by the same department in 1917, and *The Beet Sugar Industry in the United States*, issued by the Federal Trade Commission in 1917.

ROY G. BLAKEY.

The United States Tariff Commission has also published a monograph on *Japan: Trade During the War*, which covers the years 1913-1917 with special reference to commerce with the United States. The report is divided into three sections: development of Japan's foreign trade prior to the war, going back to 1856; expansion of Japan's foreign trade during the war; and trade between Japan and the United States. Another volume, *Reciprocity and Commercial Treaties* (pp. 535), will receive more adequate notice in the next issue of the REVIEW.

The *Second Annual Report of the United States Tariff Commission for 1918* (Washington, 1919), gives in Appendix 4 specimens of tariff information catalogs on which the commission has been for some time engaged. Those reprinted deal with: bleaching powder (pp. 47-58); cotton gloves (pp. 59-74); quicksilver (pp. 75-94); rails (pp. 95-118). These catalogs will be of great value to students of commercial and manufacturing conditions. They contain a description of the industry and processes, imports and exports, world production, analysis of competitive conditions with brief bibliographies. Several pages are devoted to a list of the catalogs which are under preparation.

The Bureau of the Census has published Bulletin 137, *Cotton Production and Distribution, Season of 1917-1918* (Washington, 1918, pp. 135). There are maps showing the amount of cotton ginned in the several states in 1917.

The *Annual Report of the Chief of the Bureau of Foreign and Domestic Commerce* for the fiscal year ended June 30, 1918 (Washington, pp. 93), summarizes the work of the various divisions of the department.

The *Annual Report of the Commissioner of Navigation for 1918* (Washington, pp. 237) reviews the progress of ship construction during the preceding year.

The hearings held in December and January before the House

Committee on Interstate and Foreign Commerce on *Government Control of the Meat-Packing Industry* have been issued in two parts (pp. 215).

The testimony of J. Ogden Armour on behalf of Armour and Company, January 21, 1919, in the investigation of the packing industry has been published as a reprint by the Armour Company (pp. 64).

The *Second Annual Report of the United States Shipping Board* gives a full account of the activities of this board and also of the Emergency Fleet Corporation (December 1, 1918, pp. 212). A report by the chairman of the board, Edwin N. Hurley, on *World Shipping Data: Report of European Mission* (Washington, Mar. 1, 1919, pp. 32), presents data in regard to shipbuilding costs abroad. Also a series of pamphlets has been issued as follows:

Why Our Ships Will Now Stay on the Ocean, by E. N. Hurley (pp. 14).

World Trade, a List of Books on World Trade (1918, pp. 8).

Ships and the Ocean, a List of Books on Ships, Commerce, and Merchant Marine, (1918, pp. 7).

Part 8 of the hearings before the Senate Committee on Commerce, relating to the *United States Shipping Board Emergency Fleet Corporation*, contains the testimony of Matthew C. Brush, president of the American International Shipbuilding Corporation (Washington, 1919, pp. 407), and presents many interesting photographs and charts.

The United States Department of Agriculture has issued the following bulletins:

No. 721, *The Beet Sugar Industry in the United States*, by C. O. Townsend (Nov. 22, 1918, pp. 56).

No. 726, *Farm Practice in Growing Beets for Three Districts in Colorado, 1914-1915* (pp. 60).

No. 742, *Production of American Egyptian Cotton* (pp. 30).

No. 755, *Geographical Phases of Farm Prices: Oats*, by R. B. Zapolon (pp. 28). This has maps showing the usual geographical variations in producers' prices within the United States and the normal geographical variations in producers' price.

No. 770, *Motor Transportation for Rural Districts*, by J. H. Collins (pp. 32).

The American Relief Administration, of which Mr. Herbert Hoover is director, has issued Bulletin No. 1 on *German Food and Trade Con-*

ditions, by A. E. Taylor and Vernon Kellogg (New York, 115 Broadway, Apr. 15, 1919, pp. 24).

The *Report of the New York State Food Commission* for the period October 18, 1917, to July 1, 1918 (Albany, 1919, pp. 153), contains a supplementary report for the period ending November 1, 1918. The various phases of food conservation are described.

The Agricultural Experiment Station of the University of Wisconsin has issued a small bulletin, No. 300, on *War Prices and Farm Products*, by H. C. Taylor and S. W. Mendum (Madison, Mar., 1919, pp. 18). It is illustrated by charts showing incomes and receipts of farmers.

The Bureau of the Census has published in the Census of War Commodities series, *Iron and Steel Products* (Washington, pp. 16).

The Bureau of Mines has prepared a collection of typewritten sheets giving excerpts from monthly reports on minerals investigations (Feb., 1919, pp. 43) and containing tables and charts in regard to the production of various minerals.

Corporations

PROPOSALS FOR A SOLUTION OF THE RAILWAY PROBLEM. In 1916 Congress appointed a joint committee of five Senators and five Representatives, to prepare a report on the questions of government regulation, railroad efficiency, and nationalization. Hearings were held during 1916 and 1917, but our entry into the war put the matter off indefinitely. Chairman Newlands of the joint committee died late in 1917, and the committee reported briefly to Congress in March, 1918, that no final report would be presented.

In the meantime came the urgent necessity, with the prospect of peace in 1919, that Congress should seek a definite solution of the railway problem. By the Railroad Control act of March 21, 1918, the railways pass out of the hands of the government not later than twenty-one months after the declaration of peace, or by the middle of 1921 at the latest. The railway problem had changed since 1916, some of the difficulties being aggravated, while many new ones were superadded as a result of the war and federal control. Students and observers of the transportation question agreed generally that the time was ripe for a constructive and radically different policy of railway regulation. But what policy?

To secure light on this question the Senate Committee on Interstate Commerce in January and February of this year gave consideration to various plans. Some of the proposals were elaborated in detail before

the committee. Some were formulated as general principles underlying a correct solution, while others took the form of manuscripts filed with the committee. Still others were not formally presented to the committee, but appeared as public addresses, pamphlets, and periodical articles. Some forty separate proposals may be listed as the product of study of the railway problem during the past two years. The problem is still under discussion, and a complete story of the discussion cannot be attempted as yet, but a few of the more elaborate plans laid before the Senate Committee may be singled out for brief analysis here.

Director General of Railroads Walker D. Hines developed a series of proposals during several days' sessions of the committee. The Interstate Commerce Commission sent a representative who spoke authoritatively for that body, only one member of the commission dissenting in part from the presentation. State commissions were heard through three representatives. The railways presented a series of recommendations through officers of the Association of Railway Executives. Railway security holders were represented by men who appeared for two associations of the stockholders and bondholders. Railway labor received a hearing in the persons of representatives of the trainmen's brotherhoods and smaller organizations. Purchasers of transportation service, the shippers, were heard, and presented a number of plans. Several bankers either filed recommendations with the committee, or developed their proposals through outside channels.

Although the plans varied at many important points, analysis reveals the striking fact that the majority of them agreed on a number of underlying principles. There was unanimity regarding the gravity of the problem and the vital necessity of prompt and thorough action. It was recognized that the nation could not survive the post-war period of readjustment without an adequate transportation system, ready and able to meet the demands upon it. Furthermore, there was wide agreement that railway regulation should be fuller and stricter than before. The demand for federal supervision over the issuance of railway securities was voiced in nearly all proposals. There was a fairly consistent demand, except on the part of the state commissions, that burdensome regulation of railway operation and rates by the several states give place to a strong policy of federal regulation of all but local matters. That the railways should be allowed greater freedom of combination and merger, and should be encouraged to a joint use of their facilities whenever in the public interest, was another note struck by a number of proponents. This proposal was made in full recognition

of the fact that it would involve modification of the anti-trust laws, so far as the railways are concerned.

There were, however, many points of difference. The first concerns the future policy of the American people regarding the transportation industry. Shall it remain under private initiative? Shall it be nationalized outright? or, Shall there be a partial step toward nationalization? With but few exceptions, the trend was sharply in the direction of a continued policy of private ownership and operation. Glenn E. Plumb, appearing as an attorney of various railway labor organizations, elaborated a plan whereby the government would purchase the railways and turn them over to labor for operation. Two other men appeared to urge government purchase and operation. With these exceptions, private ownership and operation was generally advocated by the witnesses. Director General Hines, for example, said:

I do not personally believe in Government ownership. I believe there can be a form of radically reconstructed private ownership, with such close Government supervision, including Government representation on the boards of directors, as will give the public and labor all the benefits of Government ownership and at the same time will preserve the benefits of private and self-interested initiative and will avoid the political difficulties which perhaps are inseparable from Government ownership.

The Interstate Commerce Commission expressed itself as follows:

Considering and weighing as best we can all of the arguments for and against the different plans, we are led to the conviction that with the adoption of appropriate provisions and safeguards for regulation under private ownership it would not be wise or best at this time to assume Government ownership or operation of the railroads of the country.

As to the form which railway control should take, there was diversity of opinion. The railway executives advocated the creation of a new Department of Transportation, whose head should be a member of the President's Cabinet. Under this plan the Interstate Commerce Commission would no longer have administrative power, which would pass into the hands of the Secretary of Transportation, while the commission would retain its quasi-judicial functions. The other plans for the most part advocated the retention of the commission, with usually a plea for the extension of its powers, even to the exclusion of state intervention. The Interstate Commerce Commission advocated co-operation between "the federal tribunal" and state authorities through the utilization of the services of the latter by the former "in appropriate instances and to an appropriate extent." Regional commissions operating under the direction of the interstate body were advocated in several plans, such as that of the railway executives, and the plan proposed by S. Davies Warfield of the National Association of Owners of Railroad Securities.

Another point was the consolidation of railways into a limited number of large systems, with a more extensive common use of equipment, terminals, and other joint facilities. Director General Hines advocated regional railway systems. The Interstate Commerce Commission argued for a revision of the limitations upon the united or co-operative activities of common carriers, and advocated mergers to such extent as may be necessary in the general public interest. The railway executives proposed federal incorporation, with a provision for such mergers as should be approved by the Secretary of Transportation.

With regard to rates, recognition was given to the necessity that they should be adequate, although the proposals varied as to the extent to which there should be a definition of adequacy or reasonableness. Director General Hines emphasized the idea of a fair return to the railways, rather than that of reasonableness of rates. He proposed that the government should guarantee a fair return, making up any deficit on the one hand and sharing in excess profits above the return on the other hand. This would shift the burden of securing an adequate rate level from the railways to the government. The Interstate Commerce Commission argued that rates should be such as to provide adequate revenues. The railway executives proposed that there should be statutory provision for adequacy of rates, the term adequacy to cover wage costs and other expenses. The Warfield plan provided that the law should specifically prescribe such a rate level as, adjusted from time to time, should produce an average return of 6 per cent on invested capital. The Plumb or labor plan proposed that rates be adjusted on a sliding scale basis, and be reduced whenever profits rise above 10 per cent of gross operating revenues.

Various proposals were made for the adjustment of wages. The railway executives advocated a tripartite board representing the railways, the employees, and the general public, to investigate wage disputes and make recommendations to the Secretary of Transportation. The Warfield plan vested the duties of a board of conciliation in each of the proposed regional commissions, and provided for the creation of boards of arbitration, with right of appeal to the Interstate Commerce Commission. The labor plan provided for wage boards whose decisions should be final.

Looking over the various proposed plans as a whole, it is clear that they group themselves into three distinct classes. The first group is composed of the plans that depart the least from the general principles underlying railway regulation and operation in the past. These plans recognize the weaknesses of the régime existing prior to federal con-

trol, and seek the elimination of the weak points. They provide for no government partnership in railway affairs, but only such strengthening and unification of government regulation, such modification of undesirable restrictions, and such establishment of a definite rule for rate making, as will result in a strong, well-knit, and efficient transportation system. The railways will continue to benefit from the results of their own operation when efficient, and will suffer when inefficient; the government undertakes no direct financial responsibility. In this group of proposals the most notable are the plans submitted by the Interstate Commerce Commission, the railway executives, and Mr. Warfield of the security holders.

The second group of proposals provide for government partnership to the extent of a guaranteed return on railway investment or capital. The railways still operate their own properties and retain many of the benefits and incentives of private initiative, but the government becomes a silent partner to the extent that it shoulders a certain amount of financial responsibility. It follows that the government will participate in the management, either through representation on the boards of directors or otherwise. In this group are the proposals of Mr. Hines and several of the plans proposed by bankers, providing for a government guarantee, with participation in the profits.

The third group of plans provide for government ownership outright. Aside from two or three general proposals of such a solution, only one definitely elaborated plan of government ownership was presented, that of Mr. Plumb, appearing for railway labor. Even this plan, advocating government purchase of railway properties, does not advocate government operation, but would turn the railway system over to an operating corporation, administered by a board of directors elected in part by railway employees and appointed in part by the President. In brief, the only definite plan of nationalization does not provide for direct operation by the government.

As illustrative of these three groups of plans, the following brief outlines are presented of one plan in each group, the railway executives' plan from the first group, the Hines plan from the second group, and the Plumb or labor plan from the third.

The plan of the railway executives may be indicated as follows:

1. Private ownership and operation.
2. Federal incorporation.
3. Exclusive federal regulation of rates, and supervision of security issues.
4. No new construction except when and as needed.

5. A Department of Transportation, which shall
 - (a) recommend policies,
 - (b) re-route traffic when necessary,
 - (c) readjust the use of terminal facilities, and
 - (d) unify the transportation system in a national emergency.
6. Transfer of the executive and administrative powers of the Interstate Commerce Commission to the Secretary of Transportation, the commission to retain quasi-judicial functions, especially as to the reviewing of rates.
7. Carriers to initiate rates, subject to the approval or disapproval of the Secretary of Transportation, who may refer questions to the commission for review. The commission may also hear complaints respecting rates, and shall fix minimum as well as maximum rates.
8. A reasonable, adequate, and sufficient rule of rate making to be specified by statute.
9. Regional commissions to be created under the supervision of the Interstate Commerce Commission.
10. Modification of the Clayton Anti-trust act, and of the limitations on pooling of cars, division of earnings, acquisition of interest in other carriers, rate agreements, and the like.
11. Wage boards to be organized when necessary, and wage costs to be recognized in rate making as an expense.

The Hines plan presented the following fundamentals:

1. Existence of numerous railroad corporations with widely varying financial structures no longer possible.
2. Abolition of the "strong and weak corporation" menace to railway credit and efficiency.
3. Participation of the government, and perhaps of labor, in profits in excess of a comparatively moderate return.
4. Guarantee by the government of a fair return to the railways, with moderate participation in profits in excess of that return.
5. The guaranteed return to be sufficient to preserve railway credit and attract additional capital.

The Plumb plan provided for:

1. Government purchase of railway properties, on the basis of a fair valuation.
2. Operation by a corporation. Other than working capital furnished by the government, the sole capital of this corpora-

tion would be the "operating ability of every employee, from president down to office boy."

3. The board of directors of the operating corporation to be composed one third of directors elected by the appointed railway officials, one third by other employees, and one third appointed by the President of the United States.
4. Rates to be fixed, presumably by the Interstate Commerce Commission, so as to produce operating revenues sufficient "to meet the requirements of the service."
5. Profits to be divided equally between the government and the operating corporation, the latter to pay its share to labor as a dividend.
6. Automatic reduction of rates whenever the government's share of profits are in excess of five per cent of the operating revenue.
7. Control of intrastate traffic left in the hands of local authorities whenever it does not interfere with the proper operation of interstate traffic.
8. Wage settlements through wage boards and boards of adjustment.

JULIUS H. PARMELEE.

Washington, D. C.

ANNUAL REPORT OF DIRECTOR GENERAL OF RAILROADS. W. G. McAdoo has issued nine sections of his annual report for 1918 as Director General of Railroads (Washington, 1918-1919, pp. 159). The sections cover respectively operation, traffic, wages and working conditions, capital expenditures, public service and accounting, suggestions and complaints, law, and inland waterways. An additional section, covering the work of the division of finance and purchases, is in press as this note is written.

The longest section is that on operation, covering 62 pages. It recounts the operating problems faced by the Railroad Administration at the beginning of 1918 and tabulates the results in terms of improvement in coal supply, food distribution, freight congestion, and in the export situation. To accomplish these results, terminals were unified, freight was hauled by the most direct routes, solid freight trains were created, passenger trains were reduced in number, freight cars and car repair shops were virtually pooled, a coal zoning plan was established in coöperation with the Fuel Administration, and other steps were taken toward unification and economy.

As to equipment, plans were drawn for semi-standardized locomotives and freight cars, orders being placed for 1,430 locomotives and 100,000 freight cars of the standardized types. The Car Service Section dealt principally with problems of car handling and forwarding. This section also supervised freight embargoes and permits, the latter being largely of the nature of exemptions from embargo.

The Safety Section was a unit of the Division of Operation; also the Troop Movement Section, which handled 6,496,150 men between January 1 and the armistice, or nearly 21,000 per day; also the Operating Statistics Section, which established statistical standards, compiled the returns, and served as a general clearing house of information; also the Telegraph Section, the Fuel Conservation Section, and the Exports Control Committee, whose functions are indicated by their titles.

The section on traffic is devoted largely to traffic economies and restrictions. Consolidated ticket offices replaced passenger offices formerly in existence, passenger trains were eliminated, time-tables were abridged and advertising curtailed. Uniform methods were installed in respect to many practices, rules and regulations, and the like.

To conserve the car supply, virtually prohibitive demurrage charges were made effective, to prevent shippers from holding cars longer than was absolutely essential.

The most important part of the section on traffic, from the public viewpoint, deals with increased freight and passenger rates. The increases were for the purpose of providing "for the increase in wages allowed, the higher prices that were and are being paid for all materials and supplies, and the rising costs of operation generally." Freight rates were raised 25 per cent in June, and passenger rates about 30 per cent. In addition, express rates were raised 10 per cent in July, and again about 10 per cent on January 1, 1919. In addition, there were changes in individual rates and traffic rules, and consolidation and simplification of tariffs, which affected the rate level. Another activity of the Division of Traffic was to work out a consolidated freight classification, applicable throughout the United States. This classification has not yet received the approval of the Interstate Commerce Commission.

The Division of Labor provided a means to settle questions as between railway officials and employees. The report of the division, probably prepared by its director, a former union chief, rather critically reviews past arbitrations of labor disputes and their results.

General Order No. 27, issued on May 25, increased the wages of all employees earning less than \$250 per month, and created a Board of Railroad Wages and Working Conditions, composed equally of railway and labor representatives. This board investigated inequalities or inequities growing out of the general wage increase, and made recommendations to the Director General. Its labors resulted in a number of supplements, amendments, and addenda to General Order 27. Three Boards of Adjustment were also created. The report further discusses progress made during the year in the direction of standardization: standardization of wages, of hours of labor, and of other conditions of employment, such as rules of discipline and maintenance of the seniority principle.

The Division of Labor early took up the question of the closed shop versus the non-union shop, its recommendations being embodied in General Order No. 8, issued February 21, which provided that "no discrimination will be made in the employment, retention, or conditions of employment of employees because of membership or non-membership in labor organizations." Following the issuance of this order new unions were organized on a number of roads.

An important feature is the report of the Women's Service Section, organized August 28. The number of women in railway service grew from 60,555 on January 1, 1918, to 101,296 on October 1. About three fourths were engaged in clerical work. The work of the section was devoted mainly to supervising the hours and working conditions of the women, and to guarding the enforcement of labor laws.

The brief section on capital expenditures outlines the nature of improvements to railway plant and equipment authorized to December 31, 1918, amounting to \$1,278,815,000, and the amount actually expended to November 30, less than half the authorized sum.

Under the head of accounting are outlined the necessary accounting changes and standards brought into play by the fact of federal control and operation. The government having leased railway property from several hundred different corporations, elaborate and detailed accounting methods were made necessary, so as to keep the financial relationships between the government and each corporation on a clear and accurate accounting basis.

The Division of Law devoted itself principally to devising a standard form of lease contract between the government and the several railway companies. The division also supervised the taking over or relinquishment of railway lines, handled claims for special compensation in excess of the guaranteed standard return, and attended to general claims and other legal matters.

The section on inland waterways is devoted to the management and results of operation of the several waterways taken over. Results were meager for the most part, although the supplementary service rendered by some of the canals was locally of value. JULIUS H. PARMELEE.

Washington, D. C.

The Bureau of Railway Economics has prepared a typewritten list of references to articles on *Plans Proposed for Future Control and Operation of Railroads* (Washington, Mar. 31, 1919, pp. 25); also a list of books pertaining to government ownership of railways, being a supplement to Bulletin 62. This covers the period between January, 1917, and March, 1918 (typewritten, pp. 38).

The railway question is covered by hearings before the Senate Committee on Interstate Commerce on *Government Control and Operation of Railways*, Parts 1-7 (Washington, 1918, pp. 1338). This testimony covers the period between December, 1917, and January, 1918. Hearings before the Subcommittee on the Committee on Interstate Commerce on *Long-and-Short-Haul on Railroads* held March 14, 1918, have also been printed (Washington, pp. 733). The memorandum submitted to this committee on *Government Control of Railways in Great Britain* appears in a separate pamphlet (Washington, 1918, pp. 56); also *Federal Control of Systems of Communication*, a hearing held July 9, 1918 (pp. 57). Further hearings before this committee, on *Extension of Tenure of Government Control of Railways*, covering the period from January 3, to February 14, 1919, appear in ten parts.

The *Statement of Mr. Samuel Rea*, president of the Pennsylvania Railway System, before the Interstate Commerce Committee, February 20, 1919, has been printed as a separate (Philadelphia, pp. 16).

The New York and Washington Association of Railway Executives has published a preliminary edition of the testimony before the Senate Committee in a volume entitled *Remedial Railway Legislation, 1919* (pp. 279). This has been followed by a supplement containing testimony by J. Kruttschnitt and D. E. Willard (pp. 98).

Among public utility reports have been received:

Twenty-fourth and Final Report of the Boston Transit Commission, June 30, 1918 (Boston, pp. 65).

The Report of the Public Service Commission of Maryland for 1918 (Baltimore, pp. 663).

Wisconsin Railway Commission Reports, Vol. 19 (Mar. 9, 1917-Nov. 12, 1917, pp. 115).

Sixth Annual Report of the State Corporation Commission of New Mexico, 1917 (Santa Fe, pp. 116).

Labor

METHODS OF COMPUTING LABOR TURNOVER. The recent discovery of the extent and costs of labor turnover has brought with it varying methods of computation. In order that a standard practice might be adopted, the National Association of Employment Managers at their annual meeting in May, 1918, adopted the following method¹ which has since been approved by the United States Bureau of Labor Statistics as the basis for its investigations.² "To compute the percentage of labor turnover for any period, find the total separations for the period considered and divide by the average of the number actually working each day through the period."

Before criticising this method it is necessary to determine just what is meant by "turnover." Labor turnover is simply the number of men hired by a given business unit to take the places of men who have left. Turnover in this sense is exactly similar to the use of the term by any retail merchant to indicate the disposal of certain units and their replacement by other units.³ Turnover as such does not begin until replacement occurs.

The percentage of labor turnover is the proportion which these newly hired men who actually replace others form of the average force employed in a given period of time. It indicates the percentage of men which it has been necessary to hire in order to maintain a constant labor force. In itself it indicates nothing as to whether the force itself is being increased or decreased.

In the light of this definition (which I believe would be approved by every student of the problem), the method of computation adopted by the Bureau of Labor Statistics is defective in the following ways:

1. It uses separations rather than replacements as the basis of turnover. The definition of turnover adopted by the Employment Managers Association is indeed as follows:

¹ For a full statement of this report see *Monthly Review*, United States Bureau of Labor Statistics, June, 1918, pp. 172-173. That this method did not introduce uniformity may be seen from the symposium on labor turnover in *Industrial Management*, September, 1918, pp. 239-246 and November, pp. 425-26, in which from five to six different methods were advanced, practically all of which, in the opinion of the author, are wrong.

² See "Labor turnover in Cleveland and Detroit," by Boris Emmett, *Monthly Review*, Jan., 1919, pp. 11-30; "Labor turnover in the San Francisco Bay region," by Paul F. Brissenden, *Monthly Review*, Feb., 1919, pp. 45-62.

³ With the exception, of course, that a high labor turnover means an economic loss to the employer, while a high turnover of goods means an economic gain to the merchant.

"Labor turnover for any period consists of the number of separations from service during that period. Separations include all quits, discharges, and lay-offs for any reason whatsoever."

It is true that in a period in which the working force of the given plant is being increased, separations do roughly constitute the amount of turnover which takes place. Men are being hired not only to increase the net working force, but to take the place of those who have left. It is only in the latter sense that they constitute replacements and enter into turnover. Separations in this case, therefore, do approximately measure replacements. To be absolutely accurate, however, one should subtract the vacated positions which have not been filled from the total separations to secure the number of actual replacements. Such a deduction, however, although ideally necessary may not be practically possible in many instances due to insufficient payroll data.

But the case is different if the labor force is decreasing. Suppose that a given plant decreases its force in a given period of time from 1,000 to 900 and hires no new men. There are 100 separations but no new men have entered the plant. Turnover as such has not occurred. Yet the method adopted by the Bureau of Labor Statistics would show a labor turnover of 100 men. Plainly, therefore, in this case separations do not measure replacements. The number of men newly hired do constitute replacements. It is not correct, moreover, in the case of a declining labor force to deduct the positions vacated but not replaced from number newly hired since those newly hired have replaced some workers even if they have not replaced the particular ones whose positions are vacated.

The proper method, therefore, of determining replacements should take:

- a. The number of separations actually replaced as the base in the case of an increasing force.
- b. The number newly hired as the base in the case of a decreasing force.

2. It uses the average attendance as the denominator instead of the number actually employed, by the company. The best index of the average number actually employed is not the average attendance but the average number on the payroll.⁴ The use of the average attendance as the denominator confuses absenteeism with turnover. Recent investigations show that from 6 to 15 per cent of the working force are

⁴ Care should be taken that the payroll does not contain "dead wood," or men who have really left the employ of the company.

absent daily. Yet these men fill positions which are part of the working force and consequently should not be disregarded in computing the average working force. Absenteeism should be treated as a separate item in labor loss and not included in the computation of turnover.⁵

The preceding paragraphs indicate the methods which I believe should be followed: To compute the percentage of labor turnover for any period, find the total replacements for the period considered and divide by the average number on the payroll.

The difference between the method proposed by the author and that adopted by the Bureau of Labor Statistics may be seen from the following two non-algebraic examples:

Example A

COMPUTATION OF LABOR TURNOVER WITH AN INCREASING LABOR FORCE.

1. Given statistics:

Number employed at beginning of month 1,000.

Number employed at end of month 1,100.

Number newly hired 300.

Number positions vacated not filled 10.

Average daily attendance 900.

2. Method of Bureau of Labor Statistics:

Number of separations = 300 — (1100-1000) = 200.

Labor turnover = $\frac{200}{900} = 22.2$ per cent.

3. Method proposed:

Average force on payroll = $\frac{1000 + 1100}{2} = 1050.$ ⁶

Number of replacements = 300 — (1100-1000) — 10 = 190.

Labor turnover = $\frac{190}{1050}$ or 18.1 per cent.

Percentage of absenteeism = $\frac{150}{1050} = 14.3$ per cent.

Example B

COMPUTATION OF LABOR TURNOVER WITH A DECREASING LABOR FORCE.

1. Given statistics:

Number on payroll at beginning of month 1,000.

Number on payroll at end of month 900.

Number newly hired 25.

Average daily attendance 800.

⁵ Mr. Boris Emmett, an investigator for the United States Bureau of Labor Statistics, in his article on the "Nature and computation of labor turnover," *Journal of Political Economy*, Feb., 1919, pp. 105-117, has come to believe in the use of hirings rather than separations in a decreasing work force, but he still clings to the use of the average attendance as the denominator. One of his objections to the use of the payroll is that it contains absentees. Of course it does, but these can be computed separately and should not be confused with turnover.

⁶ That is, the arithmetic average of the number employed at the beginning and end of the month. The number each week can be averaged if more accurate methods are desired.

2. Method of Bureau of Labor Statistics:

$$\text{Number of separations} = 25 + (1000-900) = 125.$$

$$\text{Labor turnover} = \frac{125}{800} \text{ or } 15.6 \text{ per cent.}$$

3. Method proposed:

$$\text{Average number on payroll} = \frac{1000 + 900}{2} = 950.$$

$$\text{Number of replacements} = 25.$$

$$\text{Labor turnover} = \frac{25}{950} \text{ or } 2.6 \text{ per cent.}$$

$$\text{Percentage of absenteeism} = \frac{950 - 800}{950} \text{ or } 15.8 \text{ per cent.}$$

It will be noticed that the use of this method results in a much lower turnover rate which is especially true in the case of a decreasing labor force.

The labor turnover for a given period should be reduced to a yearly basis in the same fashion that the Public Health Service reduces mortality and morbidity statistics to a yearly rate. If the given period is a month, the percentage should be multiplied by 12; if a week by 52. Care should be taken: (a) that the replacements listed should not include former employees newly hired for their old positions; (b) that the statistics be compiled for departments and trades as well as for the plant as a whole.

Emergency Fleet Corporation,
Philadelphia, Pa.

PAUL H. DOUGLAS.

The Central Bureau of Planning and Statistics has prepared a typewritten pamphlet to show the principal sources of *Labor Statistics* (Washington, Mar. 19, 1919, pp. 67), which have been compiled by federal and state agencies. Sources are grouped under the following headings: accident compensation and insurance; accidents; cost of living; disputes and settlements; employment; employment agencies; factory inspection; hours of labor; housing; labor costs; labor demand and supply; labor organizations; labor turnover; occupational diseases; productivity of labor; unemployment; vocational education; wages; and welfare work.

The federal Bureau of Labor Statistics has issued the following bulletins:

No. 233, *The Operation of the Industrial Disputes Investigation Act of Canada*, by B. P. Squires (pp. 150) which contains a two-page bibliography.

No. 253, *Women in the Lead Industries*, by Alice Hamilton (Feb., 1919, pp. 38).

The Training and Dilution Service of the United States Department of Labor has for distribution a pamphlet on *British Methods of Training Workers in War Industries* (Washington, 1918, pp. 68); also pamphlets on *How Training Departments have Bettered Production* (1919, pp. 23); *How to Start a Training Department in a Factory* (pp. 24); and *A Successful Apprentice Toolmakers' School* (1919, pp. 8).

The Children's Bureau of the federal Department of Labor has issued a bulletin on *The States and Child Labor* giving lists of states with certain restrictions as to ages and hours (Washington, 1919, pp. 46); also *The Employment Certificate System a Safeguard for the Working Child* (pp. 12); and a monograph on *Infant Mortality*, results of a field study in Brockton, Mass., based on births in one year, by Mary V. Dempsey (Washington, 1918, pp. 82).

The Department of Labor has published a report of a survey by the Women in Industry Service on *Labor Laws for Women in Industry in Indiana* (Washington, Dec. 31, 1918, pp. 29).

State labor reports have been received as follows:

Fifth Annual Report of the State Board of Labor and Industries of Massachusetts (Boston, 1918, pp. 81).

Twelfth Annual Report of the Public Employment Offices of Massachusetts (Boston, Bureau of Statistics, 1919, pp. 34).

Thirty-second Annual Report of the State Board of Arbitration of Massachusetts, 1917 (Boston, 1918, pp. 213).

Labor Legislation in Massachusetts, 1918, with Index to Bills Affecting Labor (Boston, Bureau of Statistics, Oct. 1, 1918, pp. 95).

Twenty-first Annual Report of the Bureau of Labor and Industrial Statistics of Virginia, 1918 (pp. 80).

Labor Laws of the State of Tennessee (Nashville, Tennessee Department of Workshop and Factory Inspection, 1918, pp. 53).

Kansas Labor Laws and Laws Especially Affecting the Employment of Labor, annotated and compiled for the State Department of Labor and Industries by Richard MacIntosh (Topeka, 1918, pp. 258).

Biennial Report of the State Industrial Commission of Oklahoma, September, 1916, to August, 1918 (Oklahoma City, pp. 18).

Eighteenth Biennial Report of the Bureau of Labor Statistics of California (Sacramento, pp. 470).

General Report of the Minister of Public Works and Labour of the Province of Quebec (Quebec, 1918, pp. 185).

The Department of Labor of New York has issued bulletins: Janu-

ary, 1919, *A Plan for Shop Safety Sanitation and Health Organization*; February, *Weekly Earnings of Women in Five Industries*; March, *The Industrial Replacement of Men by Women in the State of New York*.

The Minimum Wage Commission of Massachusetts has made a supplementary report of *Wages of Women in Candy Factories in Massachusetts* (Boston, 1919, pp. 42).

Money, Prices, Credit, and Banking

THE EQUATION OF EXCHANGE FOR 1918, as calculated by the usual method, with slight modifications, is:¹

Circ. of money (74) + Circ. of checks (1195) = Value of goods bought (1269)

$$\begin{array}{rcl} \text{Money} \times \text{its velocity} & + & \text{Deposits} \times \text{their veloc.} = \text{Trade} \times \text{scale of prices} \\ \frac{M}{2.46} \times \frac{V}{30} & + & \frac{M'}{12.5} \times \frac{V'}{95.6} = \frac{T}{641} \times \frac{P}{198 \text{ per cent}} \end{array}$$

The meaning is that the money in actual circulation (*i.e.*, outside of banks and the United States Treasury) was 2.46 billions of dollars and changed hands about 30 times in the year, thus effecting 2.46×30 or 74 billions of exchanges; the volume of deposits subject to check was 12.5 billions and changed hands about 95.6 times in the year, thus effecting 12.5×95.6 or 1195 billions of exchanges, the two together making a total of $74 + 1195$ or 1269 billions. This paid for a volume of trade of 641 billion units (a "unit" of trade being that amount of goods which, in the base year, 1909, was worth \$1), at prices 98 per cent higher than the prices of said base year, so that 641×198 per cent is also 1269.

Some errors in the figures of the diagrams published December 1917 are here corrected.

I would emphasize, even more than I have done previously, that little or no dependence is to be placed on the *absolute* values of V' and T in the equation of exchange. Only the *relative* changes of V' and T may be regarded as having any real value, and that only approximate. Probably they do not have much value, even approximate, for comparing widely distant dates, such as 1918 with 1909. This is because, since 1909, I have been forced to employ *extrapolation*, which is almost sure to involve a cumulative error.

We may say almost the opposite of V' . Its relative fluctuations are purely conjectural, based chiefly on the behavior of V' ; but its abso-

¹ In spite of their very rough character, I have kept up these annual calculations from year to year in the hope that better data would eventually be forthcoming. There are some indications that this hope will be realized next year.

lute value (as calculated for 1896 and 1909) does, I believe, approximate the truth, roughly at least.

Comparing with 1917, we find that the money-in-circulation and deposits-subject-to-check increased about 20 or 25 per cent; the volume of trade increased 7 or 8 per cent; and the price level increased about 15 per cent. The velocities did not change greatly. The behavior of all six magnitudes is shown in the main (upper) diagram.

Thus 1918 was a year of general expansion. The great growth of war trade more than compensated for the great shrinkage of ordinary business; and there was monetary and credit inflation.

The lower diagram is for bimonthly periods and continues that first presented four years ago. It portrays the situation at the six dates² of each year for which the Comptroller's figures for national banks are available. The first three dates were before the outbreak of war in Europe.

As noted four years ago, the various magnitudes of the equation of exchange varied little in the first three periods of 1914, preceding the war, but after its outbreak, they fluctuated violently.

There were sudden contractions followed by gradual expansions. The volume of trade showed a sudden reduction following the outbreak of the war and a subsequent full recovery distributed through the remainder of 1914. The velocities³ of circulation showed the same sudden contraction, with subsequent rapid recovery.

In short, the exchangers of money and goods, following the alarm of war, temporarily "stopped, looked, and listened." Money was held and even hoarded. As a consequence, there was an emergency expansion of the volume of money during the last half of 1914, with a restoration to normal in 1915, and a tendency to expand towards the end of 1916.

The deposits, on the other hand, executed an opposite movement, contracting soon after the war began, and expanding during 1916.

The entrance of the United States into the war, in April, 1917, seemed to cause far less disturbance than the original outbreak in 1914, presumably because it was less of a surprise. Moreover, instead of a slowing down of circulation there was a speeding up and a rise of prices.

² The exact dates for the Comptroller's data are given in the table below (for money in banks).

As indicated in the heading of the lower diagram, all the rates are rates per year, not per month. The method of calculation is the same as that used four years ago and described in this Review for June, 1915 (p. 407).

³ As to money, this is only inferential, on the assumption that its velocity (V) followed that of deposits (V').

Following the armistice in November, 1918, there was another speeding up of circulation. There was also an expansion of deposits and trade.

These various changes in the equation of exchange are closely associated with a third magnitude, namely, the *money in banks*, that is, the (cash) bank reserves which are not represented specifically in the diagram but which are given (in billions) in the following table:

MONEY IN BANKS

Date	National	All	Date	National	All
1914			1916		
Jan. 13	1.03		Mar. 7	.90	
Mar. 4	1.02		May 1	.85	
June 30	1.02	1.67	June 30	.82	1.91
Sept. 12	.98		Sept. 12	.85	
Oct. 31	1.01		Nov. 17	.86	
Dec. 31	.73		Dec. 27	.88	
1915			1917		
Mar. 4	.78		Mar. 5	.89	
May 1	.79		May 1	.84	
June 23	.86	1.77	June 20	.75	2.75
Sept. 2	.91		Sept. 11	.49	
Nov. 10	.92		Nov. 20	.52	
Dec. 31	.88		Dec. 31	.53	
			1918		
			Mar. 4	.45	
			May 10	.46	
			June 29	.38	2.90
			Aug. 31	.36	
			Nov. 1	.44	
			Dec. 31	.52	

It is interesting to note the behavior of bank reserves, following the three critical points of time above discussed.

These figures, with those in the diagram, indicate that the shock of war produced, in the autumn of 1914, a displacement of cash from banks into private pockets and tills, followed by a slow reaction.

After the entrance of the United States into the war there was the same tendency for money to flow out of the banks.⁴

After the armistice there was a back flow.

IRVING FISHER.

Yale University.

⁴ The large drop between June 20 and September 11, 1917, was, however, due to the change in reserve requirements, made by the amendment to the Federal Reserve act, June 21, 1917, prescribing that national banks should keep all their legal reserve with the Federal Reserve Banks.

The Information and Education Service of the United States Department of Labor has made a reprint of the address of Professor Irving Fisher before the conference of governors and mayors at the White House, March 3, 1919, on *The New Price Revolution*.

The Price Section of the Division of Planning and Statistics of the War Industries Board has issued a pamphlet on *Comparison of Prices during the Civil War and the Present War* (Washington, 1918, pp. 54).

Public Finance

The Income Tax Primer has been revised as of date March 1, 1919, by the Bureau of Internal Revenue, for the information of taxpayers (Washington, preliminary edition, pp. 38). The bureau has also issued a preliminary edition of *Income Tax Primer for Farmers* (pp. 27).

In the *Eighth Annual Report of the New Hampshire State Tax Commission* (Concord, 1918, pp. 199) the subject of the relation of savings banks to taxation is briefly discussed.

The *Report of the Tax Commissioner of Connecticut for the Biennial Period, 1917-1918* (Hartford, pp. 269), gives some attention to the subject of taxation of inheritances. It also contains excerpts from a number of addresses on the various aspects of tax problems.

The *Seventh Annual Report of the Board of Tax Commissioners of Rhode Island* (Providence, 1919, pp. 53) refers to the inheritance tax act of 1916 and also contains a discussion on the desirability of a uniform date for assessment.

Tax Laws of the State of New Jersey have been recently compiled under the direction of the State Board of Taxes and Assessment of New Jersey (Trenton, 1918, pp. 193). The compilers, Theodore Backes and G. W. Schrothe, Jr., have added abundant notes and annotations.

The *First Biennial Report of the State Tax Commission of Missouri, 1917-1918* (Jefferson City, pp. 259) contains a considerable amount of descriptive material in regard to the tax laws of Missouri. There are reprints of the papers presented at different tax conferences. Pages 160-170 present a general discussion of the inheritance tax and pages 171-190 deal with the income tax. A summary is also given on tax laws in other states with many excerpts from the volume by Dr. Lutz on *The State Tax Commission*.

The *Third Biennial Report of the Tax Commission of South Dakota, 1917-1918* (Pierre, pp. 112), also has reference to the working of the new tax commission law of that state as of 1913.

Other tax reports are:

Report of the Tax Commissioner of Massachusetts, 1918 (Boston, 1919, pp. 176).

Annual Report of the State Tax Commission of New York for 1918 (Albany, pp. 95).

Report of the State Tax Commission of North Carolina, 1918 (Raleigh, pp. 425).

The Report of the State Board of Equalization of Alabama, from September, 1915 to October, 1918 (Montgomery, pp. 182).

The Report of the Board of State Tax Commissioners and State Board of Assessors of Michigan for 1917-1918 (Lansing, pp. 81).

Sixth Report to the Legislature by the Tax Commission of Kansas, 1918 (Topeka, pp. 66).

Sixth Biennial Report of The Tax Commission of Kansas, 1916-1918 (Topeka, 1918, pp. 66).

Report of Proceedings of the Arizona Tax Conference, July, 1918 (Phoenix, pp. 176).

Fourth Biennial Report of North Dakota Tax Commission (Bismarck, 1919, pp. 77).

Report of the Tax and License Commission to the State Board of Equalization, Montana, 1917-1918 (Helena, pp. 204).

Fifth Biennial Report of the Commissioner of Taxation of Wyoming for 1917-1918 (Cheyenne, pp. 76).

First Biennial Report of the State Tax Commissioner of Washington, 1918 (Olympia, pp. 114).

The National Industrial Conference Board has prepared a *Brief Analysis of War Revenue Bill H. R. 12863 as Affecting Industry* (Boston, Jan. 27, 1919, pp. 15).

The Report of the Committee on Taxation, presented at the forty-second annual meeting of the New York State Bar Association, held in New York, January 17, 1919, has been issued as a reprint (pp. 111).

The *Twenty-eighth Annual Report of the New York Tax Reform Association* (29 Broadway) gives a summary of the changes in tax laws during 1918, and the recent proposals.

Insurance and Pensions

Bulletin No. 243 of the United States Department of Labor Bureau of Labor Statistics presents *Workmen's Compensation Legislation of the United States and Foreign Countries, 1917 and 1918* (Washington, Sept., 1918, pp. 477).

M, *i.e.*, money in circulation in the United States (outside of the United States Treasury and the banks), in billions of dollars.

T, *i.e.*, the volume of trade circulated in billions of “units” (each “unit” being that quantity which could be purchased for one dollar in 1909).

The *lever arms* of the above three weights represent:

V' , i.e., the 'velocity of circulation ("activity") of the deposits,' M' .

V , i.e., the velocity of circulation of the money, M .

P, i.e., the index number, or scale of prices, at which the trade, T, is conducted. (This scale of prices is measured as a percentage of the scale of prices of 1909.)

	$M' \times V + M \times V$										$T \times P$									
	60	70	80	90	100	110	120	130	140	150	60	70	80	90	100	110	120	130	140	150
1896	271	386	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	191	160.3%
1897	266	394	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	215	160.4%
1898	322	406	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	237	163.2%
1899	388	420	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	253	171.6%
1900	444	383	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	293	176.5%
1901	513	406	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	291	180.5%
1902	340	403	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	287	184.7%
1903	573	387	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	310	182.6%
1904	577	398	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	310	182.6%
1905	654	427	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	332	187.7%
1906	681	463	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	373	193.2%
1907	713	453	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	384	193.2%
1908	657	448	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	381	193.3%
1909	668	426	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	387	190.0%
1910	723	527	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	399	194.0%
1911	778	489	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	413	192.8%
1912	817	535	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	450	193.3%
1913	815	540	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	435	193.8%
1914	839	468	400	30	20	10	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	110%	120%	432	194.0%

[illegible]

EQUATION OF EXCHANGE FOR SIX PERIODS IN 1914, 1915, 1916, 1917, AND 1918.

(V' , V , and T have been multiplied by twelve, to convert them from rates per month to rates per year.)

Month	$M' \times V'$	$M \times V$	M'	M	$T \times P$
1914 JAN.	9.12 x 53.5	177.1 x 94	10	10	486 x 105.2%
MAR.	9.16 x 48.9	1.90 x 17.8	10	10	460 x 104.3%
JUNE	9.24 x 47.0	1.73 x 17.1	10	10	459 x 102.2%
SEPT	9.27 x 38.4	1.69 x 13.9	10	10	376 x 107.3%
OCT	8.77 x 45.1	2.06 x 16.4	10	10	418 x 103.3%
DEC 1915	7.72 x 54.5	2.36 x 19.8	10	10	459 x 102.1%
MAR	501 x 527	1.85 x 12.6	10	10	482 x 104.7%
MAY	951 x 494	1.66 x 20.3	10	10	471 x 106.7%
JUNE	839 x 522	1.78 x 21.4	10	10	504 x 103.0%
SEPT	854 x 533	1.77 x 21.9	10	10	531 x 104.0%
NOV	1088 x 586	1.90 x 24.1	10	10	628 x 109.3%

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PLAN OF REFUNDING UNDERLYING AND DIVISIONAL BONDS, PERE MARQUETTE

Old underlying and divisional bonds						New			
Name	Interest rate	Principal	Fixed charge	Character of lien	Class of underlying bond	First mortgage			
						5 per cent		4 per cent	
						Per cent	Amount	Per cent	Amount
Flint & Pere Marquette First Mort.	6	\$4,000,000	\$240,000	Main line	1	106	\$4,240,000		
Flint & Pere Marquette First Mort.	4	1,000,000	40,000	Main line	1	100	1,000,000		
Detroit, Grand Rapids, & Western First Cons.	4	5,379,000	215,160	Main line	1			100	
Chicago & West Michigan First Mort.	5	5,758,000	280,900	Main line	1	100	5,758,000		
Toledo Division, First Mort.	5	400,000	20,000	Important branch	1	100	400,000		
Flint & Pere Marquette Cons. Mort.	5	2,850,000	142,500	Main line (2d lien)	2	56.2	1,601,600	50	
Indiana Division, First Mort.	4	675,000	27,000	Branch	2			100	
Saginaw, Tuscola & Huron First Mort.	4	1,000,000	40,000	Branch	2			100	
Port Huron Division, First Mort.	5	3,325,000	166,250	Branch, unimportant	3				
Chicago & North Michigan First Mort.	5	1,667,000	83,350	Unprofitable branch	3				
Grand Rapids, Belding & Saginaw First Mort.	5	260,000	13,000	Unprofitable branch	3				
		<u>\$26,814,000</u>	<u>\$1,268,160</u>				<u>\$12,999,600</u>		

LYING AND DIVISIONAL BONDS, PERE MARQUETTE ORGANIZATION OF 1916.

New securities used for refunding											
s of erly- bond	First mortgage				5 per cent preferred stock		Common stock		Fixed charge	Increase or decrease	Conting- ent charge
	5 per cent		4 per cent								
	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount			
	106	\$4,240,000							\$212,000	—28,000	
	100	1,000,000							50,000	+10,000	
			100	\$5,379,000					215,160	same	
	100	5,758,000							280,900	same	
	100	400,000							20,000	same	
	56.2	1,601,600	50	1,425,000					137,080	—5,420	
			100	675,000					27,000	same	
			100	1,000,000					40,000	same	
					60	\$1,995,000	30	\$997,500		—166,250	\$99,750
					33½	555,700	66⅔	1,111,400		—83,350	27,785
							100	260,000		—13,000	
		<u>\$12,999,600</u>		<u>\$8,479,000</u>		<u>\$2,550,700</u>		<u>\$2,368,900</u>	<u>\$982,140</u>	<u>—\$286,020</u>	<u>\$127,535</u>
				<u>\$21,478,600</u>							